

Do not enter  
the 12/7/06 amended claims  
NC

This listing of claims will replace all prior versions, and listings, of claims in the application.

**LISTING OF CLAIMS:**

1. (Currently Amended) A method of tracking and compensating for changes in a multi-channel, dense wavelength division multiplexing (DWDM) network, comprising

employing a dither feedback mechanism which uses optical filters that are already part of the network for add/drop functions; and

dithering the center wavelength of each channel in use in the network about the center of the optical filter bandpass and passing each channel with the dithering center wavelength through the optical filter bandpass to obtain a measurement of the optical transfer function (OTF) in the network at any instant in real-time;

wherein, when the network configuration is changed by adding or dropping wavelengths, the resulting change in the OTF is tracked and feedback signals are used to compensate for the change by equalizing the optical signals by adjusting wavelengths of optical signals in the network to maintain a defined optical transfer function in the network.